INDEX

	Pages		Pages
January	1–32	July	193–220
February	33–68	August	221–248
March	69–104	September	249–292
April	105–132	October	293–328
May	133–164	November	329–360
June	165–192	December	361–392

Acoustic sounding at Cardington, 161
Acoustic sounding of a sea fog; J. F. R. McIlveen, A. C. Lunken and N. E. Holmes, 143
Analysis of pressure jumps at Luqa, Malta in the years 1968–72; J. D. Perry, 166

Bailey, V. and Watson, N. R.; Comparison of 50-millibar geopotentials derived from satellite infra-red spectrometer readings with those derived from a series of analysed charts, 105
Baker, D. F.; *obituary*, 68
Barber, A. W. E.; *obituary*, 328
Bourke, P. M. Austin; Methods in agricultural meteorology, Developments in atmospheric sciences, Volume 3 (L. P. Smith), *review*, 101
Burtonshaw, A. E.; *obituary*, 164

Changes in senior appointments within the Meteorological Office, 220
Clarke, R. T. and Newson, Anna J.; Comparison of the catch of ground-level and canopy-level rain-gauges in the Upper Severn experimental catchment, 2
Collier, C. G.; The height of the freezing level during rainfall, 381
Comparison of 50-millibar geopotentials derived from satellite infra-red spectrometer readings with those derived from a series of analysed charts; N. R. Watson and V. Bailey, 105
Comparison of the catch of ground-level and canopy-level rain-gauges in the Upper Severn experimental catchment; Anna J. Newson and R. T. Clarke, 2
Computer processing of GATE telecommunication data; C. H. Jarvis, 238
Convery, J. H.; Installation of a Dobson Ozone Spectrophotometer in the Seychelles, 350
COST 72 Technical Conference on Automatic Weather Stations, 248
Cowley, J. P.; Variations in global solar radiation at Kew, 329
Current work of the Meteorological Research Flight; D. G. James and J. M. Nicholls 86, *photographs between* 86 and 87

Davis, N. E.; The first cold snap of autumn, 306
Dobson, Dr G. M. B., C.B.E., F.R.S.; *obituary*, 245
Dutton, M. J. O.; Optimum averaging time for reports of along-runway and across-runway wind components to aviation, 343

Effect of topography on surface wind; D. M. Gunn and D. F. Furmage, 8
Einstein, Dr P. A.; *obituary*, 291
European Centre for Medium-range Weather Forecasts, 161
Extreme values of grass-minimum depressions at West Raynham; M. N. Pickup, 184

Fedorov, Ye. K.; awarded IMO Prize, 290
First cold snap of autumn; N. E. Davis, 306
Flavell, R. G. and Pettifer, R. E. W.; Some aspects of the swinging of balloon-borne pay-loads, 194
Forecasting the ducting of radio waves; M. N. Hough, 24, correction 132
Fryer, J. T., Moulsley, L. J. and Pike, K. S.; An improved wind-direction indicator, 148, *letter to the Editor*, 289
Furmage, D. F. and Gunn, D. M.; The effect of topography on surface wind, 8

Gadsden, M.; Noctilucent clouds (V. A. Bronshten and N. I. Grishin), *review*, 326
GARP Atlantic Tropical Experiment—an introduction; B. J. Mason, 221
GATE—the field project in 1974; D. E. Parker, 223
GATE—the Synoptic-scale Subprogram Data Centre; E. A. Spackman, 233
GATE Visiting Scientist Programme; *announcement*, 288
Gilchrist, A.; Physical and dynamic climatology (proceedings of the Symposium on Physical and Dynamic Climatology, Leningrad August 1971) (World Meteorological Organization, Geneva), *review*, 217
Global pressure variation and the 11-year solar cycle; B. N. Parker, 33
Gold, Mr E., C.B., D.S.O., O.B.E., F.R.S.; *obituary*, 133
Groves, (L.G.) Memorial Prizes and Awards, 99, *photographs between* 86 and 87
Gunn, D. M. and Furmage, D. F.; The effect of topography on surface wind, 8

Hallissey, Mary and McIntosh, D. H.; Noctilucent clouds over western Europe and the Atlantic during 1975, 187
Hatton, D. B.; MRF impressions of GATE, 241, *illustrations between* 234, 235
Heastie, H.; Everday meteorology (A. Austin Miller and M. Parry), *review*, 60
Height of the freezing level during rainfall; C. G. Collier, 381
Holmes, N. E., McIlveen, J. F. R. and Lunken, A. C.; Acoustic sounding of a sea fog, 143

Hopkins, J. S.; Climate and the environment —the atmospheric impact on man (J. F. Griffiths), *review*, 359
Hopkins, J. S.; Climate in a small area (M. M. Yoshino), *review*, 130
Hough, M. N.; Forecasting the ducting of radio waves, 24, *correction* 132
Houghton, D. M.; Instant wind forecasting (A. Watts), *review*, 61
Hunt, G. E.; Propagation of visible and infrared radiation in the atmosphere (V. E. Zuev), *review*, 30

Improved wind-direction indicator; L. J. Moulsley, J. T. Fryer and K. S. Pike, 148, *letter to the Editor*, 289
Installation of a Dobson Ozone Spectrophotometer in the Seychelles; J. H. Convery, 350
International emblem of GATE, 287

James, D. G. and Nicholls, J. M.; The current work of the Meteorological Research Flight, 86, *photographs between* 86 and 87
Jarvis, C. H.; Computer processing of GATE telecommunication data, 238
Jeffries, P. H.; The Meteorological Office contribution to the shipborne operation of GATE, 283, *photographs between* 270, 271
Jonas, P. R.; The use of surface synoptic data to estimate upper-level humidity over the sea, 44
Jones, D. E.; The United Kingdom Meteorological Office objective analysis scheme for GATE, 249
Jones, H. W.; *obituary*, 360

Khalili, A.; Precipitation climatology of the Tehran area, 293
Kington, J. A.; The construction of 500-millibar charts for the eastern North Atlantic–European sector from 1781, *reply to letter* from R. A. S. Ratcliffe, 63, *correction* 132

Larke, P. R. and Nicholass, C. A.; Raindrop-size distributions in a hilly region, 361
Lawrence, E. N.; Weather-spell frequencies and mathematical models, *letter*, 159
Lunken, A. C., McIlveen, J. F. R. and Holmes, N. E.; Acoustic sounding of a sea fog, 143
Lyne, W. H., Rowntree, P. R., Temperton, C. and Walker, Julia M.; Numerical modelling using GATE data, 261

McIlveen, J. F. R., Lunken, A. C. and Holmes, N. E.; Acoustic sounding of a sea fog, 143
McIntosh, D. H.; Clouds, rain and rainmaking (B. J. Mason), *review*, 215
McIntosh, D. H. and Hallissey, Mary: Noctilucent clouds over Western Europe and the Atlantic during 1975, 187
Mackenzie, D. J.; *obituary*, 220
McSween, D. McC.; award of British Empire Medal, 104

Mason, B. J.; The GARP Atlantic Tropical Experiment—an introduction, 221
Mason, Dr B. J.; election of, to the Presidency of the Institute of Physics, 327
Meeting Report—Seventh International Laser Radar Conference, Palo Alto, California, 4–7 November 1975; R. E. W. Pettifer, 128
Meteorological effects of stratospheric aircraft, 161
Meteorological observations from H.M.S. 'Hecla' during the final phase of GATE; N. Thompson, 272, *photographs between* 270, 271
Meteorological Office awards to captains and navigators of civil airlines, 100
Meteorological Office contribution to the shipborne operation of GATE; P. H. Jeffries, 283, *photographs between* 270, 271
Miles, M. K.; Environmental data from historical documents by content analysis: freeze-up and break-up of estuaries on Hudson Bay 1714–1871 (D. W. Moodie and A. J. W. Catchpole), *review*, 216
Miles, M. K.; Our changing climate (J. Gribbin), *review*, 289
Moss, W. P.; *obituary*, 291
MRF impressions of GATE; D. B. Hatton, 241, *illustrations between* 234, 235
Moulsley, L. J., Fryer, J. T. and Pike, K. S.; An improved wind-direction indicator, 148, *letter to the Editor*, 289
Murgatroyd, R. J.; Meteorology and Climatology (Volume 1, Geophysics Series) (I. P. Danilova and A. P. Kapitsa, Scientific Editors), *review*, 324

Newson, Anna J. and Clarke, R. T.; Comparison of the catch of ground-level and canopy-level rain-gauges in the Upper Severn experimental catchment, 2
Nicholls, J. M. and James, D. G.; The current work of the Meteorological Research Flight, 86, *photographs between* 86 and 87
Nicholass, C. A. and Larke, P. R.; Raindrop-size distributions in a hilly region, 361
1974/75 stratospheric winter; N. R. Watson, 69
Nixon, I. A.; awarded M.B.E., 290
Noctilucent clouds over Western Europe and the Atlantic during 1975; D. H. McIntosh and Mary Hallissey, 187
North Atlantic Ocean Stations Scheme, 161
North-east monsoon and the causes of the winter rains of south-east India; I. Subbaramayya, 153
Note on the readings of two differently exposed thermometers when water freezes on concrete; W. G. Ritchie, 57
Numerical modelling using GATE data; W. H. Lyne, P. R. Rowntree, C. Temperton and Julia M. Walker, 261

One hundred and twenty-five years ago, 218
Optimum averaging time for reports of along-runway and across-runway wind components to aviation; M. J. O. Dutton, 343

Parker, B. N.; Global pressure variation and the 11-year solar cycle, 33
Parker, B. N.; The quasi-biennial oscillation in tropical stratospheric winds: a method of forecasting, 134
Parker, D. E.; GATE—the field project in 1974, 223
Perry, J. D.; An analysis of pressure jumps at Luqa, Malta in the years 1968–72, 166
Pettifer, R. E. W.; Meeting Report—Seventh International Laser Radar Conference, Palo Alto, California, 4–7 November 1975, 128
Pettifer, R. E. W. and Flavell, R. G.; Some aspects of the swinging of balloon-borne pay-loads, 194
Philips, D. H.; A pressure jump and an associated seiche at Tobruk, 110
Pickup, M. N.; A statistical method of forecasting grass-minimum temperatures at West Raynham, 122
Pickup, M. N.; Extreme values of grass-minimum depressions at West Raynham, 184
Pike, K. S.; Moulsley, L. J. and Fryer, J. T.; An improved wind-direction indicator, 148, *letter to the Editor*, 289
Post Office 'Viewdata service', 360
Precipitation climatology of the Tehran area; A. Khalili, 293
Pressure jump and an associated seiche at Tobruk; D. H. Philips, 110

PUBLICATIONS RECEIVED
Climatologika 6: Air temperatures at the Larissa Institute for Forage Cultivations (G. Banoutsous and V. Semerdjidis), 103
Climatologika 7: Programs for the processing of wind data by computers (C. S. Sahsamanoglou), 103
Meteorologika 44: Statistical processing of air temperature data from the city of Athens for the period 1946–1973 (A. Arseni-Papadimitriou), 104
Meteorologika 45: Total ozone and temperature variations in the lower stratosphere and related teleconnections in the Mediterranean area (Ch. Zerefos and A. Bloutsous), 104
Université de Thessaloniki. Annuaire de l'Institut Météorologique et Climatologique, 43. Observations Météorologiques de Thessaloniki 1974 (G. C. Livadas), 104

Quasi-biennial oscillation in tropical stratospheric winds: a method of forecasting; B. N. Parker, 134

Raindrop-size distributions in a hilly region; C. A. Nicholass and P. R. Larke, 361
Ratcliffe, R. A. S.; The construction of 500-millibar charts for the eastern North Atlantic–European sector from 1781, *letter*, 62, *reply* by J. A. Kington, 63, *correction to reply*, 132

RETIREMENTS
Aanensen, C. J. M., 162
Bannon, J. K., 165
Bell, E. J., 163
Buchanan, R. A., 191
Evans, E., 31
Farms, R. E., 164
Freeman, M. H., 1
Sawyer, J. S., 193
Smith, L. P., 246

REVIEWS
Climate and the environment—the atmospheric impact on man (J. F. Griffiths); *review* by J. S. Hopkins, 359
Climate in a small area (M. M. Yoshino); *review* by J. S. Hopkins, 130
Cloud physics and weather modifications (Yu. S. Sedunov); *review* by P. Ryder, 358
Clouds, rain and rainmaking (B. J. Mason); *review* by D. H. McIntosh, 215
Environmental data from historical documents by content analysis: freeze-up and break-up of estuaries on Hudson Bay 1714–1871 (D. W. Moodie and A. J. W. Catchpole); *review* by M. K. Miles, 216
Everyday meteorology (A. Austin Miller and M. Parry); *review* by H. Heastie, 60
Instant wind forecasting (A. Watts); *review* by D. M. Houghton, 61
Meteorology and Climatology (Volume 1, Geophysics Series) (I. P. Danilova and A. P. Kapitsa, Scientific Editors); *review* by R. J. Murgatroyd, 324
Methods in agricultural meteorology, Developments in atmospheric sciences, Volume 3 (L. P. Smith); *review* by P. M. Austin Bourke, 101
Noctilucent clouds (V. A. Bronshten and N. I. Grishin); *review* by M. Gadsden, 326
Our changing climate (J. Gribbin); *review* by M. K. Miles, 289
Physical and dynamic Climatology (Proceedings of the Symposium on Physical and Dynamic Climatology, Leningrad, August 1971) (World Meteorological Organization, Geneva); *review* by A. Gilchrist, 217
Propagation of visible and infrared radiation in the atmosphere (V.E. Zuev); *review* by G. E. Hunt, 30
Readings on the climate of West Malaysia and Singapore (Ooi Jin Bee and Chia Lin Sien (Editors)); *review* by B. G. Wales-Smith, 102
Short course in cloud physics (International Series in Natural Philosophy Volume 84) (R. R. Rogers); *review* by P. Ryder, 216
Structure of turbulent shear flow (second edition) (A. A. Townsend); *review* by R. I. Sykes, 131
Richardson, K.; *obituary*, 68

Ritchie, W. G.; A note on the readings of two differently exposed thermometers when water freezes on concrete, 57
Rowntree, P. R., Lyne, W. H., Temperton, C. and Walker, Julia M.; Numerical modelling using GATE data, 261
Ross, T.; *obituary*, 360
Ryder, P.; A short course in cloud physics (International Series in Natural Philosophy, Volume 84) (R. R. Rogers), *review*, 216
Ryder, P.; Cloud physics and weather modification (Yu. S. Sedunov), *review*, 358

Short glossary of words and expressions occurring frequently in special GATE issues, 244
Some aspects of the swinging of balloon-borne pay-loads; R. E. W. Pettifer and R. G. Flavell, 194
Spackman, E. A.; GATE—the Synoptic-scale Subprogram Data Centre, 233
Spelling of 'program', 328
Statistical method of forecasting grass-minimum temperature at West Raynham; M. N. Pickup, 122
Sykes, R. I.; The structure of turbulent shear flow (second edition) (A. H. Townsend), *review*, 131
Symbol for specification of temperature difference or interval, 360
Symposium on Meteorological Services (other than weather forecasting) for Water Management, 327

Temperton, C., Lyne, W. H., Rowntree, P. R. and Walker, Julia M.; Numerical modelling using GATE data, 261
Thompson, N.; Meteorological observations from HMS 'Hecla' during the final phase of GATE, 272, *photographs between* 270, 271

United Kingdom Meteorological Office objective analysis scheme for GATE; D. E. Jones, 249
Use of surface synoptic data to estimate upper-level relative humidity over the sea; P. R. Jonas, 44

Variations in global solar radiation at Kew, J. P. Cowley, 329

Wales-Smith, B. G., Readings on the climate of West Malaysia and Singapore (Ooi Jin Bee and Chia Lin Sien, editors); *review*, 102
Walker, Julia M., Lyne, W. H., Rowntree, P. R. and Temperton, C.; Numerical modelling using GATE data, 261
Watson, N. R.; The 1974/75 stratospheric winter, 69
Watson, N. R. and Bailey, V.; Comparison of 50-millibar geopotentials derived from satellite infra-red spectrometer readings with those derived from a series of analysed charts, 105
Ward, F. W.; *obituary*, 132

The responsibility for facts and opinions expressed in the signed articles and letters published in this magazine rests with their respective authors.

PUBLISHED FOR THE METEOROLOGICAL OFFICE BY HER MAJESTY'S STATIONERY OFFICE

Crown copyright 1976